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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/706,127	11/03/2000	James Hedley Wilkinson	450110-02957	7830

20999 7590 03/27/2006
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EXAMINER

MOORE, IAN N

ART UNIT	PAPER NUMBER
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2616

DATE MAILED: 03/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/706,127	WILKINSON, JAMES HEDLEY	
	Examiner	Art Unit	
	Ian N. Moore	2661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5 and 7-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5 and 7-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 January 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. **Replacement Figure 1,2 and 3** should be designated by a legend such as **--Prior Art--** because only that **which is old or prior art is illustrated**. It is noted that the applicant inconsistently and incorrectly labeled FIG. 1-3 as **"Related Art"**. According to the applicant's specification (page 2, lines 6) the **sub-title**, which is above the discussion of FIG. 1-3 under the title Background of the invention, is recited as **"Description of Prior Art"**. Thus, it is clear that FIG. 1-3 are should be designed by a legend "Prior Art" since the specification clearly states these figures are the description of prior art. See MPEP § 608.02(g).
2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the **"an input for receiving an SDTI signal"** (claim 20, lines 3; claim 26, line 2; claim 28, line 2), **"a format converter"** (claim 20, line 10; claim 26, line 1; claim 28, line 1), **"means for removing"** (claim 26, line 9; claim 28, line 9), **"means for providing"** (claim 28, line 12), **"a buffer"** (claim 22, line 2), **"a file transfer system"** (claim 24, line 2), **"a multiplexer"** (claim 27, line 2) must be shown or the feature(s) canceled from the claim(s). **No new matter should be entered.**

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must

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be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claims 2,5,7 and 9 are objected to because of the following informalities: appropriate corrections are required.

Claims 2 and 9 are objected to because of the following informalities: **"the or each..."** For clarity, it is suggested to use either "the" or "each".

Claim 5 and 7 are objected to because of the following informalities: Claim 5 depends on cancel claim 4, and claim 7 depends on cancel claim 6.

Claim 5 recites, **"at least one word defining the type of element and at least one word indicating the number of element, and the data of the Element"** in lines 3-5. For clarity, it is suggested to insert comma "," or semicolon ";" between corresponding segment since it is unclear what is being defined and indicated.

Claim 2 recites, **"transfers data to and/or from an SDTI system"** in line 2. For clarity, it is suggested to revised as **"transfers data to an SDTI system, or from the SDTI system"**.

Appropriate corrections are required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 5, 26 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites, “at least one word indicating the number of words in the Element, **and if greater than zero**, at least one word defining the type of element” in lines 3-4. It is unclear “what is greater than zero”. It is unclear what are being compare in “greater than zero”, number of words, number of elements, etc. In accordance with the specification page 11, word count for the element data block setting to zero; however, none of the applicant disclosure clarifies the above limitation.

Claim 28 recites, “**means for removing**” line 9 and “**means for providing**” in line 12. The applicant invokes U.S.C. 112, six paragraph by using “means plus function” in the apparatus claim. However, neither the specification nor drawings discloses corresponding structure, materials, or acts. Thus the claim is unclear. Note that if a claim limitation invokes 35 U.S.C. 112, six paragraph, it must be interpreted to cover the corresponding structure, materials, or acts in the specification and “equivalents thereof.” Also see MPEP 2181.

Claim 26 is also rejected for the same reason as stated above.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 1-3,5,7-29 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter on the basis of following reasons.

Claim 1 is directed to non-statutory on the basis of the computer related non-statutory subject matter of “signal”, and lacking a practical application. Claim 1 recites, “**a signal format stored on a computer readable medium...comprising...a label having...a word count indicating...one or more element data blocks...an item header...wherein the system Item includes metadata...**” in the entire claim.

Regarding computer related non-statutory basic, claim 1 does not appear that a claim reciting a signal stored on the functional descriptive material (i.e. computer readable medium) falls within any of the categories of patentable subject matter set forth in § 101. First, **a claimed signal is clearly not a "process" under § 101 because it is not a series of steps.** The other three § 101 classes of machine, compositions of matter and manufactures "relate to structural entities and can be grouped as 'product' claims in order to contrast them with process claims." 1 D. Chisum, Patents § 1.02 (1994). The three product classes have traditionally required physical structure or material. "The term machine includes every mechanical device or combination of mechanical device or combination of mechanical powers and devices to perform some function and produce a certain effect or result." Corning v. Burden, 56 U.S. (15 How.) 252, 267 (1854). A modern definition of machine would no doubt include electronic devices, which perform functions. Indeed, devices such as flip-flops and computers are referred to in computer science as

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sequential machines. **A claimed signal has no physical structure, does not itself perform any useful, concrete and tangible result and, thus, does not fit within the definition of a machine.**

A "composition of matter" "covers all compositions of two or more substances and includes all composite articles, whether they be results of chemical union, or of mechanical mixture, or whether they be gases, fluids, powders or solids." *Shell Development Co. v. Watson*, 149 F. Supp. 279, 280, 113 USPQ 265, 266 (D.D.C. 1957), *aff'd*, 252 F.2d 861, 116 USPQ 428 (D.C. Cir. 1958). A claimed signal is not matter, but a form of energy, and therefore is not a composition of matter. The Supreme Court has read the term "manufacture" in accordance with its dictionary definition to mean "the production of articles for use from raw or prepared materials by giving to these materials new forms, qualities, properties, or combinations, whether by hand-labor or by machinery." *Diamond v. Chakrabarty*, 447 U.S. 303, 308, 206 USPQ 193, 196-97 (1980) (quoting *American Fruit Growers, Inc. v. Brogdex Co.*, 283 U.S. 1, 11, 8 USPQ 131, 133 (1931), which, in turn, quotes the Century Dictionary). Other courts have applied similar definitions. See *American Disappearing Bed Co. v. Arnaelsteen*, 182 F. 324, 325 (9th Cir. 1910), *cert. denied*, 220 U.S. 622 (1911). These definitions require physical substance, which a claimed signal does not have. Congress can be presumed to be aware of an administrative or judicial interpretation of a statute and to adopt that interpretation when it re-enacts a statute without change. *Lorillard v. Pons*, 434 U.S. 575, 580 (1978). Thus, Congress must be presumed to have been aware of the interpretation of manufacture in *American Fruit Growers* when it passed the 1952 Patent Act. A manufacture is also defined as the residual class

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of product. 1 Chisum, § 1.02[3] (citing W. Robinson, The Law of Patents for Useful Inventions 270 (1890)).

A product is a tangible physical article or object, some form of matter, which a signal is not. That the other two product classes, machine and composition of matter, require physical matter is evidence that a manufacture was also intended to require physical matter. **A signal, a form of energy, does not fall within either of the two definitions of manufacture. Thus, a signal does not fall within one of the four statutory classes of § 101.**

On the other hand, from a technological standpoint, a signal encoded with functional descriptive material is similar to a computer-readable memory encoded with functional descriptive material, in that they both create a functional interrelationship with a computer. In other words, a computer is able to execute the encoded functions, regardless of whether the format is a disk or a signal. **Thus, Claim 1 is ineligible for patent protection because they do not fall within any of the four statutory classes of § 101.**

Regarding lacks a substantial practical application, Claim 1 recites a particular arrangement of a signal format or structure with no practical application of how or where this is particular signal is used, and thus preempts an abstract idea and lacks a substantial application of abstract of idea (§ 101 Judicial exceptions).

As described above, claim 1 recites “**a signal format stored on a computer readable medium that can be accessed by a computer system as a file**” without any substantiation practical application of how such a file is being transformed and used. Thus, the claimed file covers every substantial practical application of an abstract idea, thereby; the claim invention preempts a 101 judicial exception of abstract idea.

For claims including such excluded subject matter to be eligible, the claim must be for a practical application of the abstract idea, law of nature, or natural phenomenon. *Diehr*, 450 U.S. at 187, 209 USPQ at 8 (“application of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.”); *Benson*, 409 U.S. at 71, 175 USPQ at 676 (rejecting formula claim because it “has no substantial practical application”). The claimed does not in reality “seek[] patent protection for that formula in the abstract.” *Diehr*, 450 U.S. at 191, 209 USPQ at 10. “Phenomena of nature, though just discovered, mental processes, abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work.” *Benson*, 409 U.S. at 67, 175 USPQ at 675. One may not patent a process that comprises every “substantial practical application” of an abstract idea, because such a patent “in practical effect would be a patent on the [abstract idea] itself.” *Benson*, 409 U.S. at 71-72, 175 USPQ at 676; cf. *Diehr*, 450 U.S. at 187, 209 USPQ at 8 (stressing that the patent applicants in that case did “not seek to pre-empt the use of [an] equation,” but instead sought only to “foreclose from others the use of that equation in conjunction with all of the other steps in their claimed process”). “To hold otherwise would allow a competent draftsman to evade the recognized limitations on the type of subject matter eligible for patent protection.” *Diehr*, 450 U.S. at 192, 209 USPQ at 10. Thus, a claim that recites a computer that solely calculates a mathematical formula (see *Benson*) or a computer readable medium that can be accessed by a computer system as a file that solely stores a mathematical formula or specific format of a file is not directed to the type of subject matter eligible for patent protection.

If the “acts” of a claimed signal manipulate only numbers, abstract concepts or ideas, or signals representing any of the foregoing, the acts are not being applied to appropriate subject

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matter. Schrader, 22 F.3d at 294-95, 30 USPQ2d at 1458-59. Thus, a file consisting solely of mathematical operations, i.e., forming/producing one set of format into another set of format does not manipulate appropriate subject matter and thus cannot constitute a statutory process, machine, or compositions of matter or manufactures.

Claim 2 recites, “a signal format for use in a system which transfers data to and/or from an SDTI system, the signal format comprising...a word count indicating...one or more element data blocks...Item header...each item being modified in that a label...an item header...wherein the system Item includes metadata...” in the entire claim. Thus, it is also rejected for the same reason as stated above in claim 1.

Claim 9 is directed to non-statutory on the basis of the claim invention preempts an abstract idea and lacks a substantial application of abstract of idea (§ 101 Judicial exceptions). Claim 1 recites, “a file for storage in computer system comprising...a concatenation of one or more SDTI content packages...each comprising a word count...one or more element data blocks...an Item header...the data of the system item includes metadata...” in the entire claim.

As described above, claim 9 recites a file for storage without any substantial practical application. Thus, the claimed file covers every substantial practical application of an abstract idea, thereby; the claim invention preempts a 101 judicial exception of abstract idea.

For claims including such excluded subject matter to be eligible, the claim must be for a practical application of the abstract idea, law of nature, or natural phenomenon. Diehr, 450 U.S. at 187, 209 USPQ at 8 (“application of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.”); Benson, 409 U.S. at 71, 175 USPQ at 676 (rejecting formula claim because it “has no substantial practical application”). The

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claimed does not in reality “seek[] patent protection for that formula in the abstract.” Diehr, 450 U.S. at 191, 209 USPQ at 10. “Phenomena of nature, though just discovered, mental processes, abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work.” Benson, 409 U.S. at 67, 175 USPQ at 675. One may not patent a process that comprises every “substantial practical application” of an abstract idea, because such a patent “in practical effect would be a patent on the [abstract idea] itself.” Benson, 409 U.S. at 71-72, 175 USPQ at 676; cf. Diehr, 450 U.S. at 187, 209 USPQ at 8 (stressing that the patent applicants in that case did “not seek to pre-empt the use of [an] equation,” but instead sought only to “foreclose from others the use of that equation in conjunction with all of the other steps in their claimed process”). “To hold otherwise would allow a competent draftsman to evade the recognized limitations on the type of subject matter eligible for patent protection.” Diehr, 450 U.S. at 192, 209 USPQ at 10. Thus, a claim that recites a computer that solely calculates a mathematical formula (see Benson) or a computer disk that solely stores a mathematical formula is not directed to the type of subject matter eligible for patent protection.

If the “acts” of a claimed process manipulate only numbers, abstract concepts or ideas, or signals representing any of the foregoing, the acts are not being applied to appropriate subject matter. Schrader, 22 F.3d at 294-95, 30 USPQ2d at 1458-59. Thus, a process consisting solely of mathematical operations, i.e., converting one set of numbers into another set of numbers, does not manipulate appropriate subject matter and thus cannot constitute a statutory process.

If the “acts” of a claimed file manipulate only numbers, abstract concepts or ideas, or signals representing any of the foregoing, the acts are not being applied to appropriate subject matter. Schrader, 22 F.3d at 294-95, 30 USPQ2d at 1458-59. **Thus, a file consisting solely of**

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mathematical operations, i.e., converting, forming/producing and storing one set of format into another set of format, does not manipulate appropriate subject matter and thus cannot constitute a statutory process, machine, or compositions of matter or manufactures.

In accordance with MPEP (see MPEP 2106), in practical terms, claims define nonstatutory processes if they:

- consist solely of mathematical operations without some claimed practical application (i.e., executing a “mathematical algorithm”); or
- simply manipulate abstract ideas, e.g., a bid (Schrader, 22 F.3d at 293-94, 30 USPQ2d at 1458-59) or a bubble hierarchy (Warmerdam, 33 F.3d at 1360, 31USPQ2d at 1759), without some claimed practical application.

Claim 12 recites, “**a method of producing a signal... comprising...a label having...a word count indicating...one or more element data blocks...an item header...wherein the system Item includes metadata**” in the entire claim.

As described above, claim 12 recites a method without any substantial practical application. Thus, the claimed series of steps cover every substantial practical application of an abstract idea, thereby; the claim invention preempts a 101 judicial exception of abstract idea; and there is no “useful, tangible and concrete” final result from physical transformation (i.e. after performing series of step to produce the final format of a signal).

Regarding preemption an abstract idea and lacks a substantial application, for claims including such excluded subject matter to be eligible, the claim must be for a practical application of the abstract idea, law of nature, or natural phenomenon. Thus, a claim that recites

a computer that solely calculates a mathematical formula or a computer disk that solely stores a mathematical formula is not directed to the type of subject matter eligible for patent protection.

Regarding no “useful, tangible, and concrete” final result after transformation, the claim only recites how the steps of producing a specific format of the signal, but it does not disclose such final resulted signal is useful, tangible, and concrete.

For eligibility analysis, physical transformation “is not an invariable requirement, but merely one example of how a mathematical algorithm [or law of nature] may bring about a useful application.” AT&T, 172 F.3d at 1358-59, 50 USPQ2d at 1452. Note that in determining whether the claim is for a “practical application,” the focus is not on whether the steps taken to achieve a particular result are useful, tangible and concrete, but rather that the final result achieved by the claimed invention is “useful, tangible and concrete.” The claim is directed to a practical application of the § 101 judicial exception producing a result tied to the physical world that preempt the judicial exception, and thus then the claim does not meet the statutory requirement of 35 U.S.C. § 101.

Claim 13 recites, “**a method of forming a signal...** comprising...a label having...a word count indicating...one or more element data blocks...an item header...wherein the system Item includes metadata...” in the entire claim. Thus, it is also rejected for the same reason as stated above in claim 12.

Claim 25 recites, “**a method of forming a signal comprising...**” in line 1. Thus, it is also rejected for the same reason as stated above in claim 13.

Claim 20 recites, “**apparatus for forming a signal...** comprising...an input for receiving an SDTI signal comprising an SDTI content package...each comprising...a start code, a word

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count...element data blocks...an item header...an end code...a format converter for removing...and for inserting a label ...wherein the system Item includes metadata...” in the entire claim. Claim 20 recites apparatus for forming a content package without any substation practical application. Thus, the claimed apparatus process the series of steps that cover every substantial practical application of an abstract idea, thereby; the claim invention preempts a 101 judicial exception of abstract idea; and there is no “useful, tangible and concrete” final result from physical transformation (i.e. after performing series of step to produce the final format of a signal).

Claim 26 recites, “**a format converter** comprising...” in line 1. Thus, it is also rejected for the same reason as stated above in claim 20.

Claim 28 recites, “**a format converter** comprising...” in line 1. Thus, it is also rejected for the same reason as stated above in claim 20.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 12 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Wilkinson (IEEE, Ref. No. 1997/382).

Regarding Claim 1, Wilkinson discloses a signal format (see FIG. 1) stored on a computer readable medium that can be accessed by a computer system as a file, comprising a Content Package (see FIG. 1, SDTI variable block of SDTI frame/package) having at least a

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System Item (see FIG. 1 and 9, Control data) and one or more of a Picture Item, an Audio Item and an Auxiliary Item (see FIG. 1, 2,6,7; Video data (which comprises picture and/or ancillary data) and/or Audio data), wherein the System (see FIG. 9) and the one of the Picture, Audio and Auxiliary Items (see FIG. 2,6,7) each comprises:

- a Label (see FIG. 2, Type field in video format; see FIG. 7, Type field in audio format; or see FIG. 9, Type field in control format) having a predetermined number of bytes and including at least one byte identifying the Item (see FIG. 2,7,9, one byte type field identifies the type of the data); see section 2, 2.1, 2.2, 2.3,2.4;

- a word count (see FIG. 2, Word Count field in video format; see FIG. 7, Word Count field in audio format; or see FIG. 9, Word Count field in control format) indicating the number of bytes of data of the Item (see section 2, 2.1, 2.2, 2.3, 2.4); and

- one or more Element data blocks (see FIG. 2-5, Video data Macroblocks (MB) in video format; see FIG. 6, ancillary MBs in video format; or see FIG. 7, Audio channel/block in audio format); see section 2.2, 2.2.1, 2.2.2, 2.2.3, 2.2.4, 2.3; and

- an Item header, preceding the number of data blocks (see FIG. 2-5; 4 byte MB header (i.e. GOP header, system, video index) in video format, see FIG. 6, MB header in ancillary format; or see FIG. 7-8, Audio header in audio format; note MB header in video, or audio header in audio format are before the MB video data or audio data), and indicating the number of element data blocks in the Item (see FIG. 4-6, MB length in video or ancillary; or see FIG. 8, the audio header calculates the block length of audio); see section 2, 2.2, 2.2.1, 2.2.2, 2.2.3, 2.2.4, 2.3.

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wherein the system Item includes metadata (see FIG. 9, Control Data Item, note that control data represents metadata, also known as, “data about data”)) relating to one or more of the Picture, Audio and Auxiliary Items in the content package (see section 2.4; “data about data” or “metadata” in the control data items relates to content of video and audio data in the SDTI frame).

Regarding Claim 12 and 15, a method claim of producing a signal stored on a computer readable medium (or storage) that can be accessed by a computer system as a file, which substantially discloses all the limitations of the respective system claim 1. Wilkinson further discloses forming a Content Package (see FIG. 1, SDTI variable block of SDTI frame/package) by concatenating at least a System Item (see FIG. 1 and 9, Control data) and one or more of a Picture Item, Audio Item and Auxiliary Item (see FIG. 1, 2,6,7; Video data (which comprises picture and/or ancillary data) and/or Audio data);

the System, and the one or more of the Picture, Audio and Auxiliary Item being formed by concatenating (see section 2, 2.1; SDTI frame is formed by encapsulating/concatenation control data and Video data (which comprises picture and/or ancillary data) and/or Audio data). Therefore, it is subjected to the same rejection.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 2,5,7-11,13,14,16-21, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilkinson in view of Eneroth (US 6,631,116).

Regarding Claim 2, Wilkinson discloses a signal format (see FIG. 1) for use in a system which transfers data to and/or from an SDTI system (see FIG. 1, SDTI system), the signal format comprising a SDTI Content Package (see FIG. 1, SDTI variable block of SDTI frame/package) having at least a System Item (see FIG. 1 and 9, Control data) and one or more of a Picture Item, an Audio Item and an Auxiliary Item (see FIG. 1, 2,6,7; Video data (which comprises picture and/or ancillary data) and/or Audio data), the System (see FIG. 9) and the one or more of the Picture, Audio and Auxiliary Items (see FIG. 2,6,7)) each comprises:

a word count (see FIG. 2, Word Count field in video format; see FIG. 7, Word Count field in audio format; or see FIG. 9, Word Count field in control format) indicating the number of bytes of data of the Item (see section 2, 2.1, 2.2, 2.3, 2.4); and

one or more Element data blocks (see FIG. 2-5, Video data Macroblocks (MB) in video format; see FIG. 6, ancillary MBs in video format; or see FIG. 7, Audio channel/block in audio format); see section 2.2, 2.2.1, 2.2.2, 2.2.3, 2.2.4, 2.3; and

an Item header, preceding the number of data blocks (see FIG. 2-5; 4 byte MB header (i.e. GOP header, system, video index) in video format, see FIG. 6, MB header in ancillary format; or see FIG. 7-8, Audio header in audio format; note MB header in video, or audio header in audio format are before the MB video data or audio data), and indicating the number of element data blocks in the Item (see FIG. 4-6, MB length in video or ancillary; or see FIG. 8, the audio header calculates the block length of audio); see section 2, 2.2, 2.2.1, 2.2.2, 2.2.3, 2.2.4, 2.3.

each Item being modified in that a Label (see FIG. 2, Type field in video format; see FIG. 7, Type field in audio format; or see FIG. 9, Type field in control format) having a predetermined number of bytes and identifying the item (see FIG. 2,7,9, one byte type field identifies the type of the data); see section 2, 2.1, 2.2, 2.3,2.4; Start Code of the item (see FIG. 1, SAV, Start of active video) and the End Code of the Item (see FIG. 1, EAV, End of active video), and

the system Item includes metadata (see FIG. 9, Control Data Item, note that control data represents metadata, also known as, “data about data”)) relating to one or more of the Picture, Audio and Auxiliary Items in the content package (see section 2.4; “data about data” or “metadata” in the control data items relates to content of video and audio data in the SDTI frame).

Wilkinson does not explicitly disclose label replaces the start code and the end code is removed. However, Eneroth teaches a Label (see FIG. 6, label E 13, see FIG. 10, LEQ codes; see col. 6, lines 5-25) having a predetermined number and identifying the Item (see FIG. 6 or 9, label or LEQ has predetermined number to identify the length of the cell) replaces the Start Code of the Item (see FIG. 6, label E field 11, or see FIG. 9, LEQ field 25; label or LEQ code is replaced/inserted at the beginning/start of the cell) and the End Code of the Item is removed (see col. 5, lines 1 to col. 6, lines 10; and thus when replacing label/codes (e.g. 0, 1, 00, 11, etc.) at the start of the payload which represent both start and end of the payload, there is no end code/flag require (i.e. removing both start and end code)). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace label/codes (e.g. 0, 1, 00, 11, etc.) at the start of the payload which represent both start and end of the payload, as taught by Eneroth in the system of Wilkinson, so that it would dynamically change the size of the

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cell during an ongoing connection thereby providing efficiency while the overhead cost is reduced; see Eneroth col. 1, line 20-67.

Regarding Claims 13, 20 and 26, Wilkinson discloses apparatus (see section 1, 1.1; equipment/machine) for forming a content package (see FIG. 1, SDTI variable block of SDTI frame/package) comprising:

an input (see section 1, 1.1; input to a equipment/machine) for receiving an SDTI signal comprising an SDTI Content Package (see FIG. 1, SDTI variable block of SDTI frame/package) having a System Item (see FIG. 1 and 9, Control data) and one or more of a Picture Item, an Audio Item and an Auxiliary Item, (see FIG. 1, 2,6,7; Video data (which comprises picture and/or ancillary data) and/or Audio data) the System and one or more of the Picture, Audio and Auxiliary Items each comprising:

a start code (see FIG. 1, SAV, Start of active video), a word count (see FIG. 2, Word Count field in video format; see FIG. 7, Word Count field in audio format; or see FIG. 9, Word Count field in control format) indicating the number of bytes of data of the Item (see section 2, 2.1, 2.2, 2.3, 2.4), one or more Element data blocks (see FIG. 2-5, Video data Macroblocks (MB) in video format; see FIG. 6, ancillary MBs in video format; or see FIG. 7, Audio channel/block in audio format); see section 2.2, 2.2.1, 2.2.2, 2.2.3, 2.2.4, 2.3; and an Item header, preceding the number of data blocks (see FIG. 2-5; 4 byte MB header (i.e. GOP header, system, video index) in video format, see FIG. 6, MB header in ancillary format; or see FIG. 7-8, Audio header in audio format; note MB header in video, or audio header in audio format are before the MB video data or audio data), and indicating the number of element data blocks in the Item (see FIG. 4-6, MB length in video or ancillary; or see FIG. 8, the audio header calculates the block length of audio);

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see section 2, 2.2, 2.2.1, 2.2.2, 2.2.3, 2.2.4, 2.3; and an end code (see FIG. 5, EAV, End of active video); see col. 1, lines 40-50; see col. 3, lines 20-30; and

the Label (see FIG. 2, Type field in video format; see FIG. 7, Type field in audio format; or see FIG. 9, Type field in control format) having a predetermined number of bytes and at least one byte identifying the Item (see FIG. 2,7,9, one byte type field identifies the type of the data); see section 2, 2.1, 2.2, 2.3,2.4;

a format converter (see section 1, 1.1; see FIG. 1; a equipment or machine performs forming/converting data into SDTI variable block of SDTI frame/package);

wherein the system Item includes metadata (see FIG. 9, Control Data Item, note that control data represents metadata, also known as, “data about data”)) relating to one or more of the Picture, Audio and Auxiliary Items in the content package (see section 2.4; “data about data” or “metadata” in the control data items relates to content of video and audio data in the SDTI frame).

Wilkinson does not explicitly disclose removing the start and end codes and inserting a Label in place of the start code. However, Eneroth teaches a format converter (see FIG. 17-18) removing the start and end codes (see col. 5, lines 1 to col. 6, lines 10; and thus when replacing label/codes (e.g. 0, 1, 00, 11, etc.) at the start of the payload which represent both start and end of the payload, there is no end code/flag require (i.e. removing both start and end code); and

Inserting a Label (see FIG. 6, label E 13, see FIG. 10, LEQ codes; see col. 6, lines 5-25) in place of the start code (see FIG. 6, label E field 11, or see FIG. 9, LEQ field 25; label or LEQ code is replaced/inserted at the beginning/start of the cell)

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to insert label/codes (e.g. 0, 1, 00, 11, etc.) at the start of the payload which represent both start and end of the payload, as taught by Eneroth in the system of Wilkinson, so that it would dynamically change the size of the cell during an ongoing connection thereby providing efficiency while the overhead cost is reduced; see Eneroth col. 1, line 20-67.

Regarding Claim 5, Wilkinson discloses wherein each Element data block comprises: at least one word indicating the number of words in the Element (see FIG. 1, 4, 5, 6; MB length in the first frame), and if greater than zero, (see FIG. 1, 6; when more than one frame (i.e. first frame and second frame)); at least one word defining the type of element (see FIG. 1, 4, 5, 6; MB information/type in the second frame) and at least one word indicating the number of the Element (see FIG. 1, 4, 5, 6; MB length in the second frame), and the data of the Element (see FIG. 1, 4, 5, 6; video, audio, ancillary data in the MB); see section 2, 2.2, 2.2.1, 2.2.2, 2.2.3, 2.2.4, 2.3.

Regarding Claim 7, Wilkinson discloses wherein the said metadata includes link metadata which links metadata relating to an Element to the Element to which it relates (see section 2.4; “data about data” or “metadata” in the control data items relates to each MB of video and audio data (i.e. audio data 1,2,4 in control data 5-7, and video data in control data 8, and etc.).

Regarding Claims 8 and 14, Wilkinson discloses the label has a predetermined fixed format except for said byte identifying the Item (see FIG. 2,7,9, see section 2, 2.1, 2.2, 2.3,2.4; note that label field has fixed format except the specific byte that identify the data type/item since the specific byte varies according to the specific type (i.e. video, audio, etc.). Eneroth

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discloses the label has a predetermined fixed format (see FIG. 6, label E 13, see FIG. 10, LEQ codes; see col. 6, lines 5-25).

Regarding Claims 9 and 16, the combined system of Wilkinson and Eneroth discloses all limitation as set forth above. Wilkinson further discloses concatenating of one or more SDTI content package (see section 2, 2.1; SDTI frame is formed by encapsulating/concateration control data and Video data (which comprises picture and/or ancillary data) and/or Audio data); and a Content Package (see FIG. 1, SDTI variable block of SDTI frame/package) by concatenating at least a System Item (see FIG. 1 and 9, Control data) and one ore more of a Picture Item, Audio Item and Auxiliary Item (see FIG. 1, 2,6,7; Video data (which comprises picture and/or ancillary data) and/or Audio data).

Regarding Claims 10 and 17, Wilkinson discloses a concatenation of a plurality of Content Packages, each Content Package including one video frame (see section 2, 2.1).

Regarding Claims 11 and 18, Wilkinson discloses the frames are compressed video frames (see section 2, 2.1; compressed video data).

Regarding Claim 19, the combined system of Wilkinson and Eneroth discloses all the limitations of the respective system claim 1. Wilkinson discloses transferring video data within a computer network (see section 1, 1.1, 1.2, 2; equipment/machine transmission of video data in the computer network) comprising: forming a file (see FIG. 1, SDTI variable block of SDTI frame/package) comprising a video data as defined in claim 17 (see section 2, 2.1); and transferring the file (see section 1, 2, 2.1; transmission of SDTI frame). Eneroth also discloses forming a file/frame and transmitting over the computer network as set forth above.

Regarding Claim 21, Wilkinson discloses a signal source for producing the SDTI signal (see section 1, 1.1, 12, 1.3; equipment/machine performing transmission of SDTI signal. Thus, it is clear that equipment/machine is also a signal source).

12. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wilkinson in view of Mendenhall (US006341198B1).

Regarding Claim 3, Wilkinson discloses wherein the Label has a fixed number of bytes and at least one byte of variable value for identifying an item (see FIG. 2,7,9, fixed/predetermined type fields for video, audio, and control data, and one byte type field identifies the data type (e.g. video, audio, control) data. Note that in order to identify a variety type of data, each type value must be variable for identifying (e.g. value A=video, B=audio, etc.); see section 2, 2.1, 2.2, 2.3,2.4.

Wilkinson does not explicitly disclose preassigned values. However, Mendenhall teaches wherein the Label (see FIG. 2 and 4, a combined system of packet start, stream ID, various flag, sub-stream ID) has a fixed number of bytes having preassigned values (see FIG. 2, a combined system has fixed number of bytes and have preassigned values (i.e. packet start with 3 bytes with preassigned value "000001h") and at least one byte of variable value for identifying an item/data (see FIG. 2 and 4, stream ID or sub-stream ID has 1 byte of variable codes for identifying the data stream; see col. 1, lines 39 to col. 3, line 55; see col. 5, line 45 to col. 6, line 14). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide data type with preassigned values for transmission, as taught by Mendenhall in the system of Wilkinson, so that it would provide a receiving unit to rapid identify which type of

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packet is being received in the data stream and respond accordingly; see Mendenhall col. 1, line 60-65.

13. Claim 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilkinson in view of Eneroth, as applied to claim 20 above, and further in view of Yamane (US 5,784,528).

Regarding Claim 22, the combined system of Wilkinson and Eneroth discloses receiving the SDTI signal and the said removing and inserting means within a format converter as described above in claim 20.

Neither Wilkinson nor Eneroth explicitly disclose a buffer for storing the signal. However, Yamane discloses a buffer (see FIG. 3, Video Buffer 2600, picture buffer 2700, and/or audio buffer 2800; or see FIG. 2, buffer 400,600,800) for storing the signal (see col. 12, lines 40-45; see col. 8, lines 5-15) and providing it to the said removing and inserting means (see FIG. 3. video decoder 3800, sub picture decoder 3100, and/or audio decoder 3200; see col. 12, lines 40-67; or see FIG. 2, system encoder 900; see col. 10, lines 15-50).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a buffer to store the signal, as taught by Yamane, in the combined system of Wilkinson and Eneroth, so that it would efficiently controlled a large volume multiple digital bitstream and provide a data structure that seamlessly reproduced; see Yamane col. 1, line 40 to col. 3, lines 36.

Regarding Claim 23, the combined system of Wilkinson and Eneroth discloses a computer system having a storage for storing files, and said format converter for producing the SDTI signal as set forth in above in claims 20-22.

Neither Wilkinson nor Eneroth explicitly discloses said format converter being an interface between the said signal source for producing the signal and the computer system. However, Yamane discloses a computer system having a store for storing files (see FIG. 2, recorder 1200 and disk M), the said format converter (see FIG. 2, a combined system of system encoder 900 and video formatter 1300) being an interface between the said signal source for producing the signal (see FIG. 2, a signal source that connects to Video encoder 300, Sub picture encoder 500 and audio encoder 700 and their corresponding buffers) and the computer system (see FIG. 2, recorder 1200 and disk M); see col. 7, line 40 to col. 11, line 15. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a buffer to store the signal, as taught by Yamane, in the combined system of Wilkinson and Eneroth, for the same motivation as stated above in claim 22.

Regarding Claim 24, Yamane discloses wherein the computer system comprises a network of file (see FIG. 2, recorder 1200 and disk M) stores linked by a file transfer system (see FIG. 2, Encode system controller 200; see col. 7, line 40 to col. 11, line 15). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a buffer to store the signal, as taught by Yamane, in the combined system of Wilkinson and Eneroth, for the same motivation as stated above in claim 22.

14. Claims 25 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilkinson in view of Yamashita (US 5,696,557) and Tappan (US 006295296B1).

Regarding Claims 25 and 28, Yamashita discloses a format converter (see section 1, 1.1; see FIG. 1; a equipment or machine performs forming/converting data into SDTI variable block of SDTI frame/package) comprising:

an input for receiving an signal ((see section 1, 1.1; input to a equipment/machine) comprising a Content Package (see FIG. 1, SDTI variable block of SDTI frame/package) having at least a System Item (see FIG. 1 and 9, Control data) and one or more of a Picture Item, an Audio Item and an Auxiliary Item (see FIG. 1, 2,6,7; Video data (which comprises picture and/or ancillary data) and/or Audio data) the System and one or more of the Picture, Audio and Auxiliary Items each comprising

a Label (see FIG. 2, Type field in video format; see FIG. 7, Type field in audio format; or see FIG. 9, Type field in control format) having a predetermined number of bytes and at least one byte identifying the Item (see FIG. 2,7,9, one byte type field identifies the type of the data); see section 2, 2.1, 2.2, 2.3,2.4),

a word count (see FIG. 2, Word Count field in video format; see FIG. 7, Word Count field in audio format; or see FIG. 9, Word Count field in control format) indicating the number of bytes of data of the Item (see section 2, 2.1, 2.2, 2.3, 2.4);

one or more Element data blocks (see FIG. 2-5, Video data Marcorblocks (MB) in video format; see FIG. 6, ancillary MBs in video format; or see FIG. 7, Audio channel/block in audio format); see section 2.2, 2.2.1, 2.2.2, 2.2.3, 2.2.4, 2.3; and

an Item header, preceding the number of data blocks (see FIG. 2-5; 4 byte MB header (i.e. GOP header, system, video index) in video format, see FIG. 6, MB header in ancillary format; or see FIG. 7-8, Audio header in audio format; note MB header in video, or audio header

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in audio format are before the MB video data or audio data), and indicating the number of element data blocks in the Item (see FIG. 4-6, MB length in video or ancillary; or see FIG. 8, the audio header calculates the block length of audio); see section 2, 2.2, 2.2.1, 2.2.2, 2.2.3, 2.2.4, 2.3;

means for converting/forming (see section 1, 1.1; see FIG. 1; a equipment or machine performs forming/converting data into SDTI variable block of SDTI frame/package), and for inserting Start Code of the item (see FIG. 1, SAV, Start of active video) and the End Code of the Item (see FIG. 1, EAV, End of active video) to thereby produces an SDTI signal (see FIG. 1, SDTI variable block of SDTI frame/package; see section 2.1);

the system Item includes metadata (see FIG. 9, Control Data Item, note that control data represents metadata, also known as, “data about data”)) relating to one or more of the Picture, Audio and Auxiliary Items in the content package (see section 2.4; “data about data” or “metadata” in the control data items relates to content of video and audio data in the SDTI frame).

Wilkinson does not explicitly disclose removing the Label of each Item. However, Yamashita teaches a Label (see col. 3, lines 60-67; see col. 4, lines 35-42a identification flag) having a predetermined number of bytes (see FIG. 4A; bytes/words) and at least one byte identifying the Item a word count indicating the number of bytes of data of the Item (see FIG. 4A, data count), and the data of the Item (see FIG. 4A-B; data; see col. 6, lines 55 to col. 7, lines 9);

removing the Label of each Item (see FIG.1, Identification extraction circuit 43; see col. 4, lines 55 to col. 5, lines 22);

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inserting a start code (see FIG. 3A-B and 4A-B; SAV) and Item type word (see FIG. 4A, Data code; see col. 5, lines 60 to col. 6, lines 12; see col. 7, lines 19-24); and

inserting an end code (see FIG. 3A-B and 4A-B; EAV; see col. 7, lines 9-15, 40-45; see col. 5, lines 60 to col. 6, lines 12) to thereby produce an SDTI signal (see FIG. 1 and 2A, producing SDI signal; see col. 5, lines 30-46).

removing the Label of each Item (see FIG.1, Identification extraction circuit 43; see col. 4, lines 55 to col. 5, lines 22);

inserting a start code (see FIG. 3A-B and 4A-B; SAV) and Item type word (see FIG. 4A, Data code; see col. 5, lines 60 to col. 6, lines 12; see col. 7, lines 19-24); and

inserting an end code (see FIG. 3A-B and 4A-B; EAV; see col. 7, lines 9-15, 40-45; see col. 5, lines 60 to col. 6, lines 12) to thereby produce an SDTI signal (see FIG. 1 and 2A, producing SDI signal; see col. 5, lines 30-46).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide removing the Label of each Item, as taught by Yamashita in the system of Wilkinson, so that it would provide a video signal editing apparatus with no disturbance; see Yamashita col. 1, line 59-67.

Neither Wilkinson nor Yamashita explicitly discloses inserting in place of the label. However, Tappen teaches inserting in place of the label (see FIG. 4 and 7A-B; col. 6, lines 13-19; see col. 39-60; replacing the label). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace the label, as taught by Tappen in the combined system of Wilkinson and Yamashita, so that it would minimize

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differences among the different real time label switching operations; see Tappen col. 4, line 50-65.

Response to Arguments

15. Applicant's arguments with respect to claims 1-3,5,7-29 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ian N. Moore whose telephone number is 571-272-3085. The examiner can normally be reached on 9:00 AM- 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris H. To can be reached on 571-272-7629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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